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ABSTRACT

This study attempted to identify the occupational interests and perceived occupational aptitudes of psychology and special education majors. A series of 2 x 2 analyses of variance were performed to determine if these differences were a function of academic major or a function of gender. The study revealed that many of the differences found in occupational interests and perceived occupational aptitude were differences that existed between psychology and special education majors and not necessarily between females and males. Those items that were reflective of academic major (e.g., to work with elementary-age or retarded children) were chosen by special education majors, and were not specifically chosen by females or males. However, the data reflected that the men, in general, had a more favorable perception of their aptitudes than did the women. Current research suggests that some of these perceptions are changing. Therefore, it is suggested that in the selection of an academic major, both males and females should be advised according to their interests and not necessarily to that of any stereotypic gender role function. (Author)

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Differences in Occupational Interests for Psychology and Special Education Majors: Function of Gender or Academic Major?

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Abstract

This study attempted to identify the occupational interests and perceived occupational aptitudes of psychology and special education majors. A series of 2 x 2 analyses of variance were performed to determine if these differences were a function of academic major or a function of gender. The study revealed that many of the differences found in occupational interests and perceived occupational aptitude were differences that existed between psychology and special education majors and not necessarily between females and males. Those items which were reflective of academic major (i.e., to work with elementary age or retarded children) were chosen by special education majors, and were not specifically chosen by females or males. However, the data reflected that the men, in general, had a more favorable perception of their aptitudes than did the women. Current research (Frieze, 1978) suggests that some of these perceptions are changing. Therefore, it is suggested that in the selection of an academic major, both males and females should be advised according to their interests and not necessarily to that of any stereotypic gender role function.

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Differences in Occupational Interests for
Psychology and Special Education Majors:
Function of Gender or Academic Major?

The fundamental purpose of this study was to find differences between undergraduate psychology and special education majors with respect to their occupational interests and perceived occupational aptitudes. Another concern was to determine of the differences that existed between these two groups were "stereotypic" sex differences or differences due to academic major.

The need for more research on the characteristics of psychology and special educators is important for a number of reasons. Special education is a field in which extensive training is required to fully prepare students to become teachers. This training involves much time and effort from the faculty and students. On the other hand, psychology is becoming a very popular undergraduate major. It offers a valid foundation for a strong liberal arts education, a basis for personal fulfillment and self-understanding, and a wide range of career options. However, many psychology majors come relatively late in their academic careers to the realization that the pursuit of a career in psychology, per se, entails rigorous and competitive advanced graduate work, in which they may or may not have interest, aptitude, or opportunity. They are often unaware, and/or sometimes unaccepting, of opportunities in other fields related to human services which their background in psychology gives them. These students should be given the opportunity to plan to obtain the doctorate within psychology and/or use their major to prepare for human services which do not entail doctoral study. Special education represents a related field which offers opportunities to psychology majors.

Guidelines could be established to aid academic counselors, faculty, and students in making responsible decisions regarding career programming. Although guidelines or profiles can be established for various academic majors, would this characteristically define academic major or role function of gender? For example, since females are over-represented in special education, can this be attributed to chcarateristics of special educators or to females?

There was a radical difference in the distribution of the sex of the students in the groups; in special education there were 83.2% females and 16.8% males, and in psychology there were 53.4% females and 46.6% males. Since the two groups differ in the percentage of males and females and since males and females

are known to differ in many value orientations and motivations (Feldman & Newcomb, 1973), it was suggested that some findings associated with treating academic majors as an independent variable may reflect the effect of sex operating as an intervening variable. That is, students in special education may be manifesting "stereotypically female" characteristics and students in psychology may be manifesting "stereptypically male" characteristics. Consequently, the need to study "gender" an an independent variable arose from the above mentioned problem.

At this point, there is no profile of either special education or psychology majors which is descriptive of their occupational interests or perceived occupational aptitudes. This study represents a step in the direction of correcting this condition.

Methodology

The variables investigated were identified as items influencing a students's occupational interest and perceived occupational aptitudes. The questionnaire was developed by the authors and refined upon the basis of two pilot questionnaires conducted during the spring and summer of 1977. The final form of the questionnaire was distributed and collected in upper division psychology and special education classes by the first author. The Likert-format inventory in this study consisted of 24 items reflecting perceived occupational aptitude and 20 items reflecting occupational interests.

The subjects were Kent State University upper classmen majoring in special education or psychology during the Fall of 1977. There were 108 special education and 57 psychology majors who volunteered to complete the inventory.

Statistical Procedures: In order to determine the role function of academic major and the effect of gender as independent variables, a series of 2 x 2 analyses of variance were performed on the data. Simple effects (Winer, 1971) were assessed to interpret significant main effects and cell means were assessed to interpret significant interactions.

Results

Perceived Occupational Aptitude: The results of the 2 x 2 analyses of variance (academic major x gender) for "perceived occupational aptitude" (Table 1) revealed that there was only one significant interaction - the ability to do well in physics. Inspection of the cell means (Table 2) indicated that more males than females withir psychology and more females than males

within special education felt they could do well in physics.

Academic major as a main effect was statistically significant at the .01 level for these variables: art, experimental psychology, law, medicine, physics, psychotherapy, research work, and special education. At the .05 level the following variables were statistically significant: counseling, music, and secondary education. Assessment of the simple effects (Table 3) indicated that psychology majors felt they could do better that special education majors in these fields: counseling, law, medicine, physics, psychotherapy, research work, and experimental psychology. Conversely, special education majors felt they could do well in these fields: art, music, secondary education, and special education.

Gender as a main effect was statistically significant at the .01 level for these items: architecture, medicine, music, physics, politics, psychotherapy, research work, and school administration. At the .05 level, foreign languages and library work were statistically significant. The simple effects (Table 4) indicated that more females than males felt they could do well in foreign languages, library work, and special education. Conversely, more males than females thought they could do well in the following fields: architecturem music, medicine, physics, psychotherapy, and school administration.

Occupational Interests: The results of the 2 x 2 analyses of variance (academic major x gender) for "occupational interests" (Table 5) revealed that there were two significant interactions. The cell means (Table 6) indicated that more males than females within psychology and more females than males within special education would enjoy working with preschool and elementary age children.

Academic major as a main effect was statistically significant at the..01 level for the following variables: preschool age children, elementary age children, adults, mentally retarded, deaf and/or blind, culturally deprived, physically handicapped, and teaching elementary school. At the .05 level, to teach college was statistically significant. Examination of the simple effects (Table 7) revealed that more than psychology majors, special education majors expressed that they would enjoy working with preschool and elementary age children; would like to work with the mentally retarded, the deaf and/or blind, the culturally deprived, and the physically handicapped; and would like to teach elementary school. However, psychology majors expressed a preference to teach college and to work with adults.

Gender as a main effect was statistically significant at the .01 level for working in interior design and communication media, and for working with adolescents. At the .05 level, working in journalism was statistically significant. The simple effects (Table 8) indicated that more males than females would like to work in communication media and journalism and with adolescents. Likewise, it was then found that more females than males would like to work in interior design.

Conclusions and Implications

This study attempted to identify the occupational interests and perceived occupational aptitudes that would differentiate psychology majors from special education majors. Also of importance was to determine if these differences were a function of academic major or a function of gender.

The data revealed that many of the differences found were attributed to academic major and were not necessarily attributed to differences in gender. The items which were reflective of an academic major (i.e., to work with elementary age or retarded children) were chosen by special education majors, and were not specifically chosen by females or males. Consequently, differences in occupational interests and/or aptitudes for special education and psychology majors may be attributed to differences within academic majors and not necessarily those attributed to differences in gender. It may be that the men who major in special education do so for reasons associated with being "special education" majors, and not because of their role function as males.

It is interesting to note that the interaction for preschool and elementary age children indicated that more males than females within psychology would enjoy working with these children. The desire and/or interest to work with children may not necessarily be a "female" role, but something which has been maintained as such because of cultural values. It may be that men are (or at least have been) discriminated against jobs of this nature because of their gender and not because of their interest in children. Therefore, it may be worthwhile to note these differences when advising students in selecting their academic major. Students, both female and male, should be advised according to their interests and not necessarily according to any stereotypic gender role function.

Although many of the differences found in this study were attributed to academic major, gender as a main effect reflected some interesting percepts. That is, males tended to have a more favorable perception of themselves (with regards to perceived occupational aptitude) than did females. Gutek

(coauthor of the forthcoming book Women and Work) has posited that this discrepancy probably exists because research has consistenly shown that women have lower self confidence and lower expectations that men have. This perception women have of themselves may be culturally induced; neverless, the stereotypic percepts still exist.

More exploratory research is needed to be able to determine how these percepts develop and if various patterns may emerge. While Gutek states that women do have lower expectations and a lowered self confidence than men have, Frieze (1978) has found differential attributional patterns for different groups of women. That is, women who assumed a "stereotypic" female role attributed their successes to external factors (e.g., luck) and their failures to internal factors (e.g., ability). However, in another groups of more "liberal" women the reverse was found to be true, i.e., they attributed their successes to internal factors (ability) and their failures to external factors (luck). This pattern is the same one that many men maintain.

It is hoped that some of these changes in attitudes, for women in particular, may reflect current and future notions of the perception women have (or may have) of themselves. Thus allowing women various alternatives in the selection of an academic major. Just as men may elect to study law or medicine (or other competitive and rigorous fields of study), women should have the same opportunity.

TABLE 1

Summary of F values (df=1,161) for the Academic Major x Gender Analysis of Variance for "Perceived Occupational Aptitude"

Item	Academic Major F	Gender F	Academic Major x Gender F
1. Accounting	0.914	0.338	0.228
2. Architecture	1.420	9.520**	0.256
3. Art	9.180**	3.210	0.013
4. Business Administration	1.510	3.700	0.001
5. Counseling	3.850*	1.870	0.707
6. Experimental Psychology	7.930**	0.000	0.712
7. Foreign Languages	2.390	4.670*	0.073
8. Journalism	0.585	3.460	0.487
9. Law	15.600**	1.110	0.000
10. Library Work	1.970	4.800*	0.360
11. Mathematics	0.477	0.020	2.360
12. Medicine	10.352**	11.692**	2.816
13. Music	6.102*	8.756**	0.277
14. Nursing	1.636	0.932	0.000
15. Physics	6.510**	11.798**	5.159*
16. Politics	2.531	6.683**	0.582
17. Psychotherapy	11.636**	7.487**	0.286
18. Research Work	6.762**	2.086	0.019

TABLE 1 (continued)

Item	Academic Major	Gender	Academic Major x Gender
	F	F	F
19. Sales	1.710	2.255	0.255
20. Secondary Education	5.005*	3.457	0.851
21. School Administration	1.863	6.813**	0.144
22. Social Work	3.157	1.293	0.037
23. Special Education	55.608**	0.028	0.028
24. Teaching College	0.826	0.444	0.020

*=.05, $F > 3.84$
**=.01, $F > 6.63$

TABLE 2

Cell Means for Perceived Occupational Aptitude
by Academic Major by Gender

Could do well in PHYSICS

GENDER	ACADEMIC MAJOR: Psychology	Special Education
Female	4.10 (n=31)	4.27 (n=88)
Male	3.04 (n=27)	4.30 (n=17)

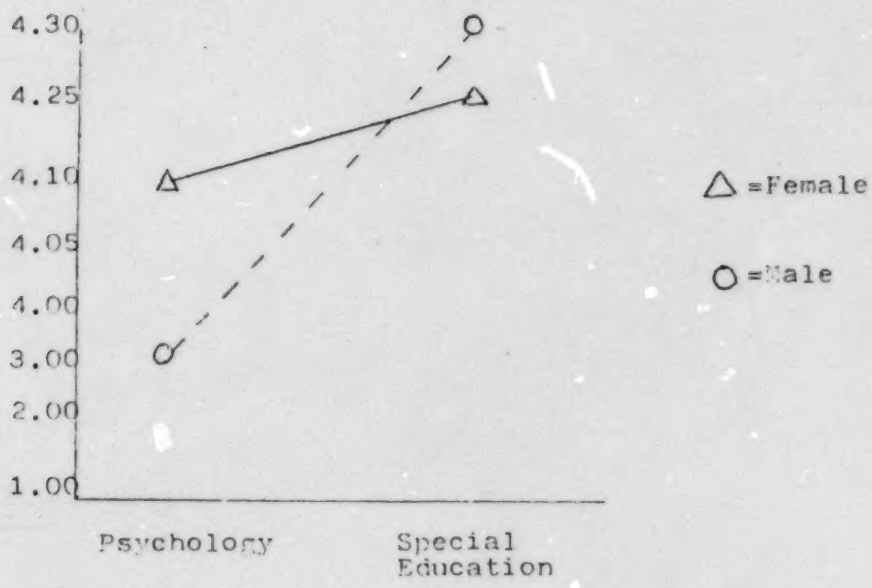

TABLE 3

Simple Effects for Academic Major for
"Perceived Occupational Aptitude"

Item	Psychology[a] $\bar{X}$	Special Education[b] $\bar{X}$
Art	3.47	2.92
Counseling	1.34	1.65
Experimental Psychology	1.86	2.34
Law	2.53	3.44
Medicine	2.71	3.53
Music	2.91	2.59
Physics	3.60	4.24
Psychotherapy	1.64	2.42
Research Work	1.97	2.56
Secondary Education	2.24	1.96

Note. The scale for these items consisted of the following format: 1=Strongly Agree, 2=Agree, 3=No Opinion, 4=Disagree, 5=Strongly Disagree

[a] $n=58$

[b] $n=105$

TABLE 4

Simple Effects for Gender for
"Perceived Occupational Aptitude"

Item	Females[a] $\bar{X}$	Males[b] $\bar{X}$
Architecture	3.76	2.07
Foreign Languages	3.04	3.11
Library Work	2.60	3.16
Medicine	3.49	2.57
Music	2.84	2.34
Physics	4.23	3.43
Psychotherapy	3.34	1.59
School Administration	2.31	1.91
Special Education	1.38	1.66

Note. The scale for these items consisted of the following format: 1=Strongly Agree, 2=Agree, 3=No Opinion, 4=Disagree 5=Strongly Disagree.

[a] $n=119$

[b] $n=44$

TABLE 5

Summary of F values (df=1,161) for the Academic Major x Gender Analysis of Variance for "Occupational Interests"

Item	Academic Major F	Gender F	Academic Major x Gender F
Would enjoy working with:			
1. Preschool-age children	19.770**	0.574	3.930*
2. Elementary-age children	68.271**	3.445	3.916*
3. Adolescents	2.206	9.428**	0.000
4. Adults	15.427**	3.802	0.806
Would like to work in:			
5. Medical Technology	1.700	2.158	3.085
6. Accounting	1.696	0.501	1.056
7. Journalism	0.520	4.852*	1.188
8. Computer Programming	3.003	0.648	0.534
9. Interior Design	0.082	7.527**	1.353
10. Communication Media	1.778	6.671**	0.476
Would like to work with:			
11. Mentally Retarded	69.666**	1.503	0.001
12. Peace Corps	0.209	0.558	.215
13. Deaf and/or Blind	26.846**	0.016	0.748
14. Animals	1.503	0.338	3.231
15. Emotionally Disturbed	0.832	0.299	0.103
16. Culturally Deprived	8.966**	0.011	0.097
17. Physically Handicapped	54.374**	0.532	0.904

TABLE 5 (continued)

Item	Academic Major	Gender	Academic Major x Gender
	F	F	F
Would like to teach:			
18. Elementary School	150.570**	1.450	2.651
19. Secondary School	2.098	1.193	0.050
20. College	6.541*	3.827	0.366

*=.05, $F > 3.84$
**=.01, $F > 6.63$

TABLE 6

Cell Means for Occupational Interests by Academic Major and Gender

"Would enjoy working with Elementary-Age Children"

		ACADEMIC MAJOR	
		Psychology	Special Education
GENDER	Female	2.68 (n=31)	1.27 (n=88)
	Male	2.07 (n=27)	1.29 (n=17)

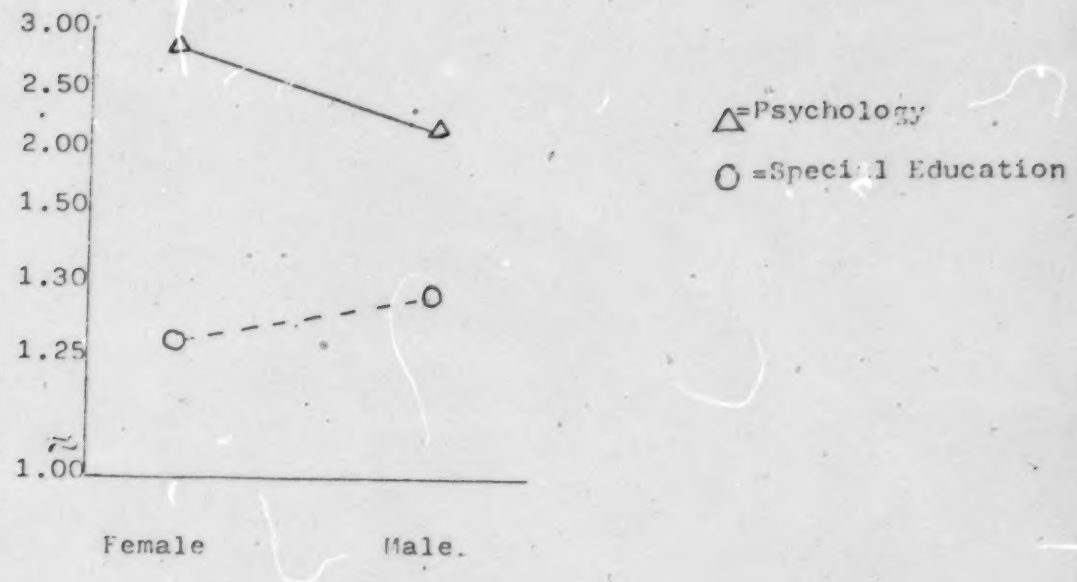

TABLE 6 (continued)

Cell Means for Occupational Interests by
Academic Major and Gender

"Would enjoy working with Preschool-Age Children"

GENDER	ACADEMIC MAJOR: Psychology	ACADEMIC MAJOR: Special Education
Female	2.68 (n=31)	1.65 (n=88)
Male	2.44 (n=27)	2.18 (n=17)

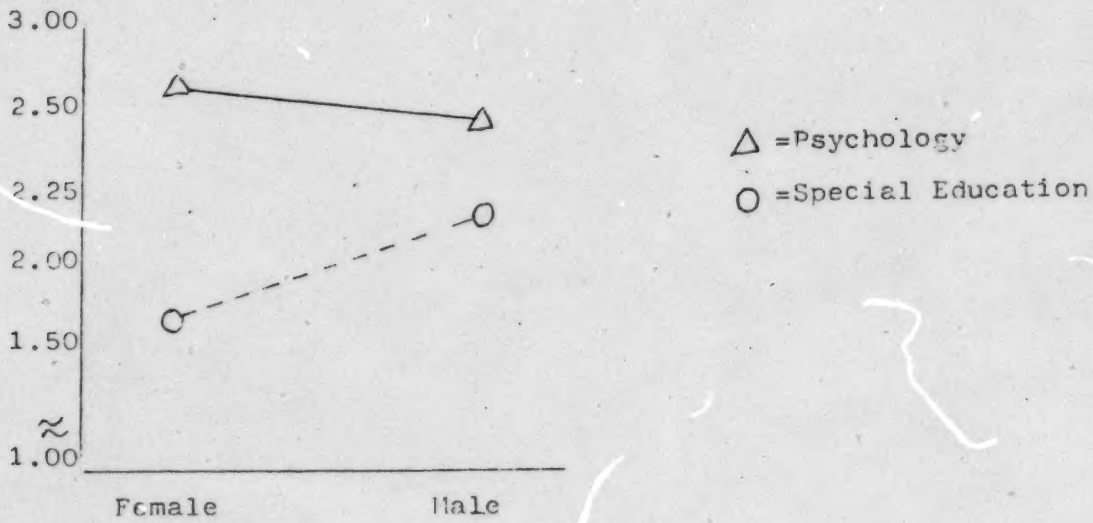

TABLE 7

Simple Effects for Academic Major for "Occupational Interests"

Item	Psychology[a] $\bar{X}$	Special Education[b] $\bar{X}$
Would enjoy working with:		
Preschool age children	2.57	1.73
Elementary-age children	2.40	1.28
Adults	1.84	2.59
Would like to work with:		
Mentally Retarded	3.14	1.62
Deaf and/or Blind	3.05	2.25
Culturally Deprived	2.48	2.03
Physically Handicapped	3.05	1.85
Would like to teach:		
Elementary School	3.41	1.47
College	2.69	3.39

Note. The scale for these items consisted of the following format: 1=Very Much, 2=A Lot, 3=Somewhat, 4=Very Little, 5=Not At All

[a] $n=58$

[b] $n=105$

TABLE 8

Simple Effects for Gender for
"Occupational Interests"

Item	Females[a] $\bar{X}$	Males[b] $\bar{X}$
Would enjoy working with:		
Adolescents	2.24	1.80
Would like to work in:		
Communication Media	3.64	3.02
Interior Design	3.59	4.18
Journalism	3.94	3.45

Note. The scale for these items consisted of the following format: 1=Very Much, 2=A lot, 3=Somewhat, 4=Very little, 5=Not At All

[a] $n=119$

[b] $n=44$